COVID in Chelsea

Results of the Analysis of Positive Cases Sept 2020-Jan 2021

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Goal: To conduct a second analysis of citywide data to understand and compare the impact of COVID19 in Chelsea, MA.

- Total number of cases: 3797
- Weeks 36-53 of 2020 and 1-3 of 2021
- (Sept 1, 2020 -January 16, 2021)

Key Takeaways

1. **During this second period, the virus shifted to a younger cohort.**
   a. **Positive cases affected residents in their 30´s**
   b. **Hospitalizations occurred among residents in their early 50´s**

2. **Mortality decreased significantly to nine cases.**

3. **Cases shifted from the retired community to workers. Both essential and non-essential workers were the bulk of all cases. The number of cases increased significantly among children.**

4. **The average number of cases per week did not change significantly over the year. Trends in disease progression follow cold weather and holidays, reflecting the human need to congregate, despite recommendations and warnings on the contrary.**

Data Quality

- Data quality improved while cases remained low, but decreased significantly during the second surge
- Many of the recommendations on incomplete data made in the first analysis remain pertinent to the second surge, especially for outcomes and employment
- Discrepancy between official numbers and databases:

Total number of cases from analysis (March to January): 5099
Total number of cases from official Chelsea website: 7682

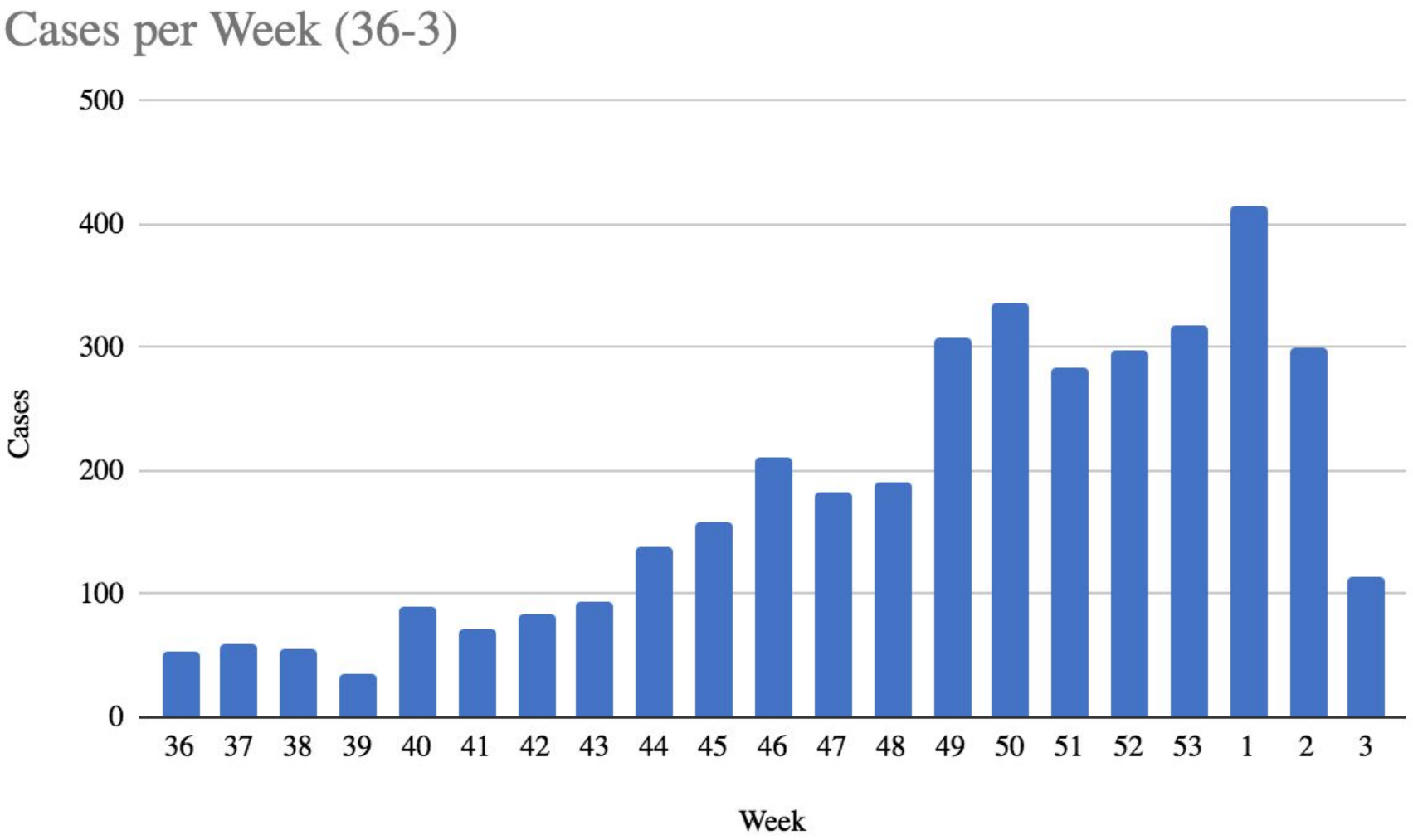
Total number of deaths from analysis (March to January): 151
Total number of cases from official Chelsea website: 212

Missing Data:

Variable	Sept-Dec	Nov-Jan	March-August
Outcomes:	486 (21.7%)	1714 (70%)*	1711 (51.8%)
Race:	140 (6.3%)	209 (8.5%)	570 (17.3%)
Ethnicity:	256 (11.4%)	1327 (54.2%)	3292 (99.7%)
Hispanic:	258 (11.5%)	230 (9.4%)	642 (19.4%)
Sex:	4 (0.2%)	6 (0.2%)	39 (1.2%)
Hospitalization:	403 (18.0%)	1605 (65.5%)	1945 (58.9%)
Employment:	454 (20.3%)	1740 (71%)	2550 (77.2%)

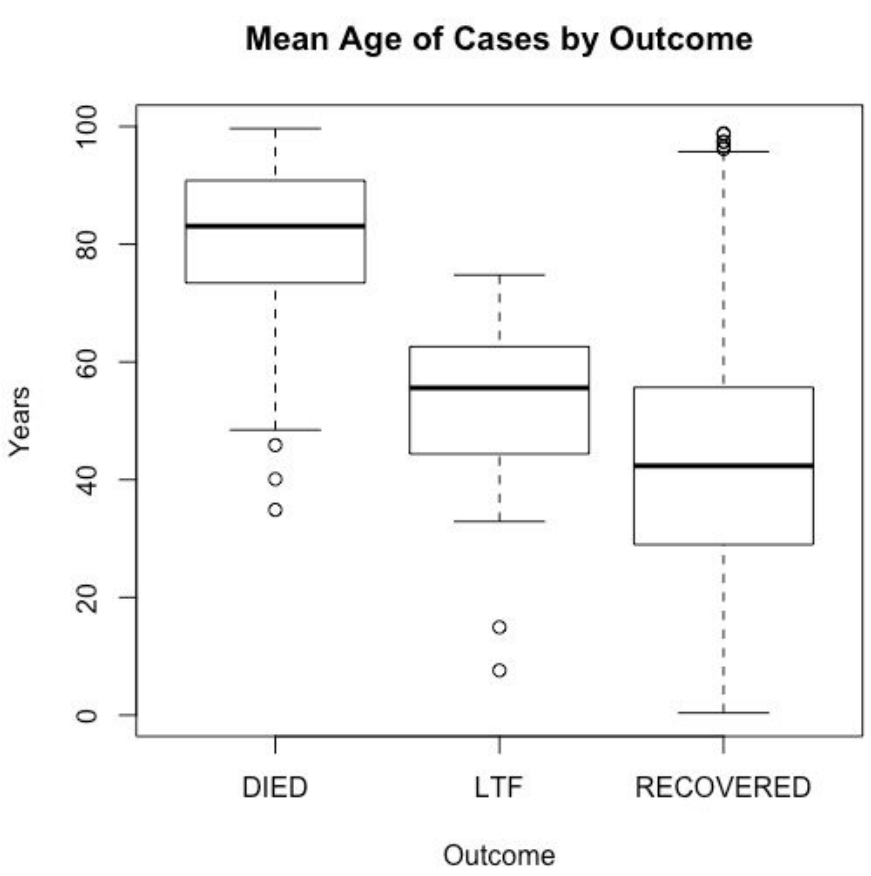
While outcome data may need 2 weeks to complete, other variables are still not gathered consistently.

Events by weeks:

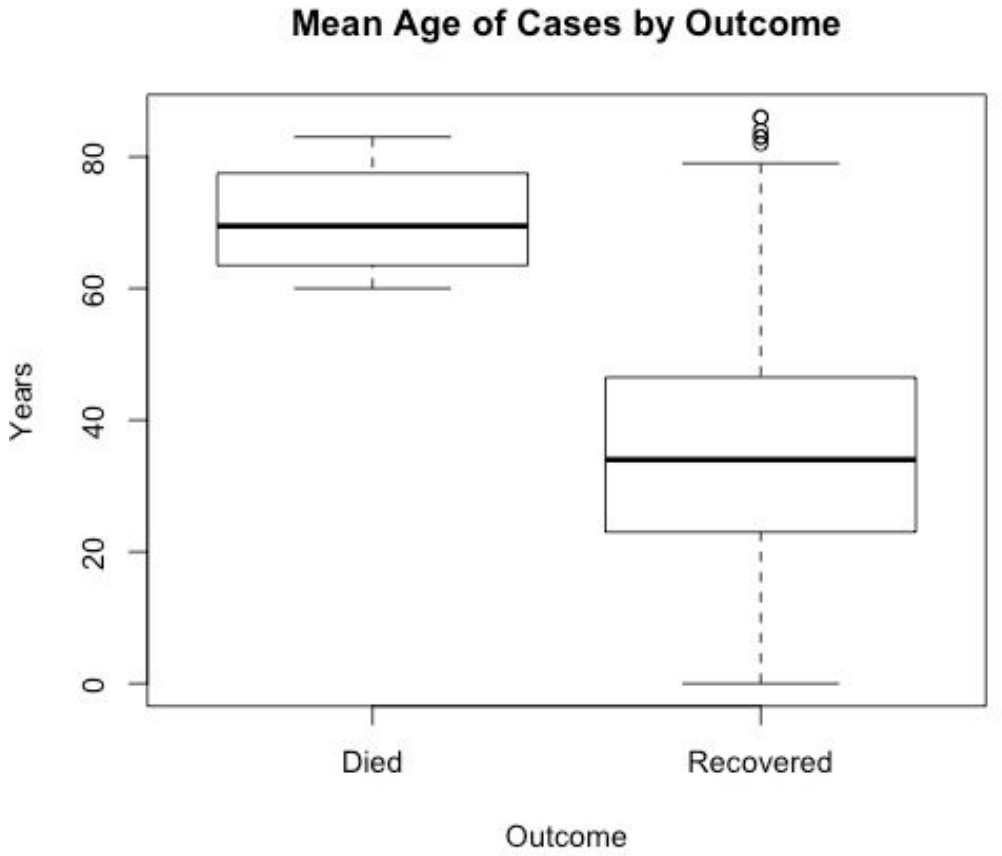


Age of cases: decreased to late 30´s

March-Aug:

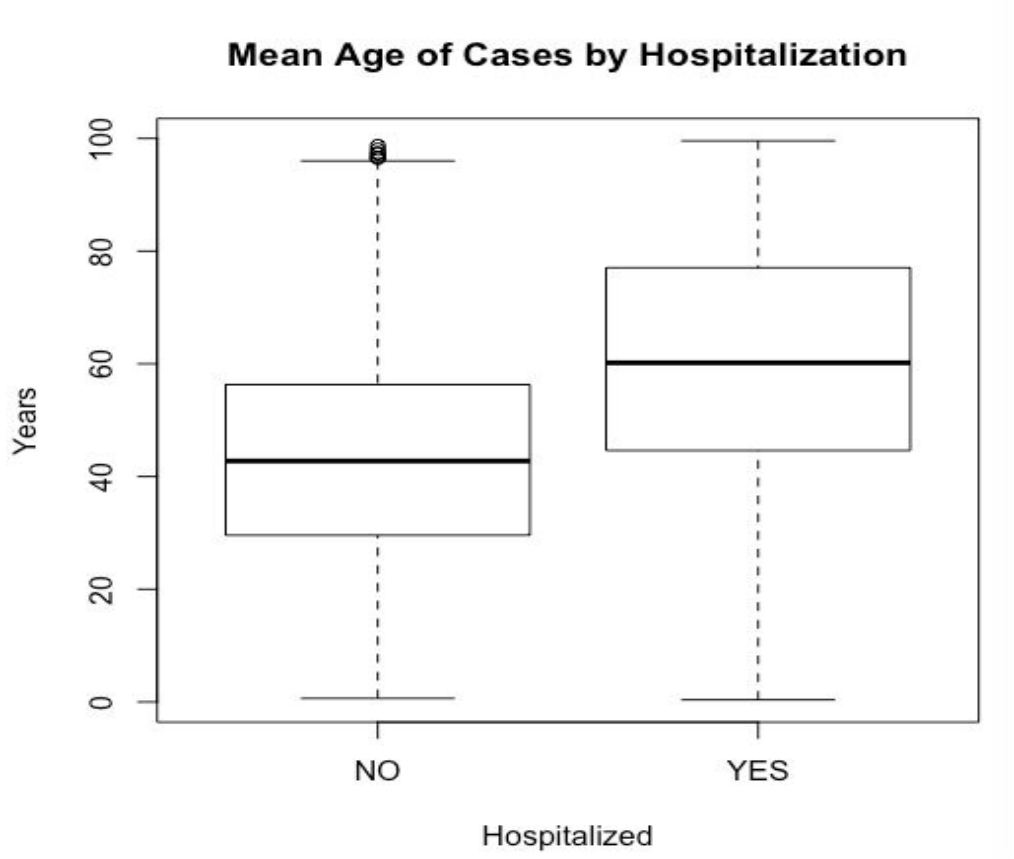


Sept-Dec:



Age of hospitalization: decreased to 51

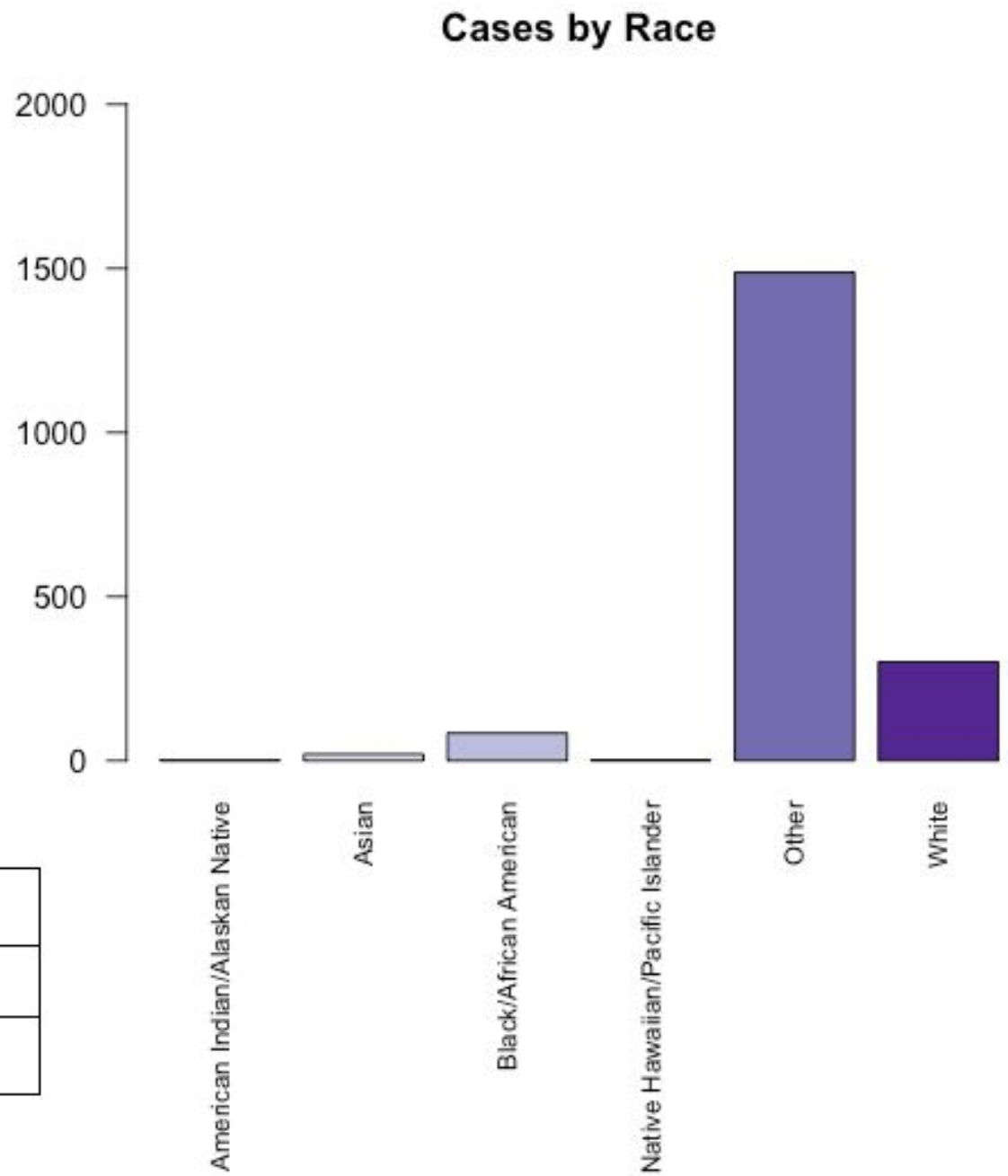
March-Aug:



Sept-Dec:

Cases by Race:

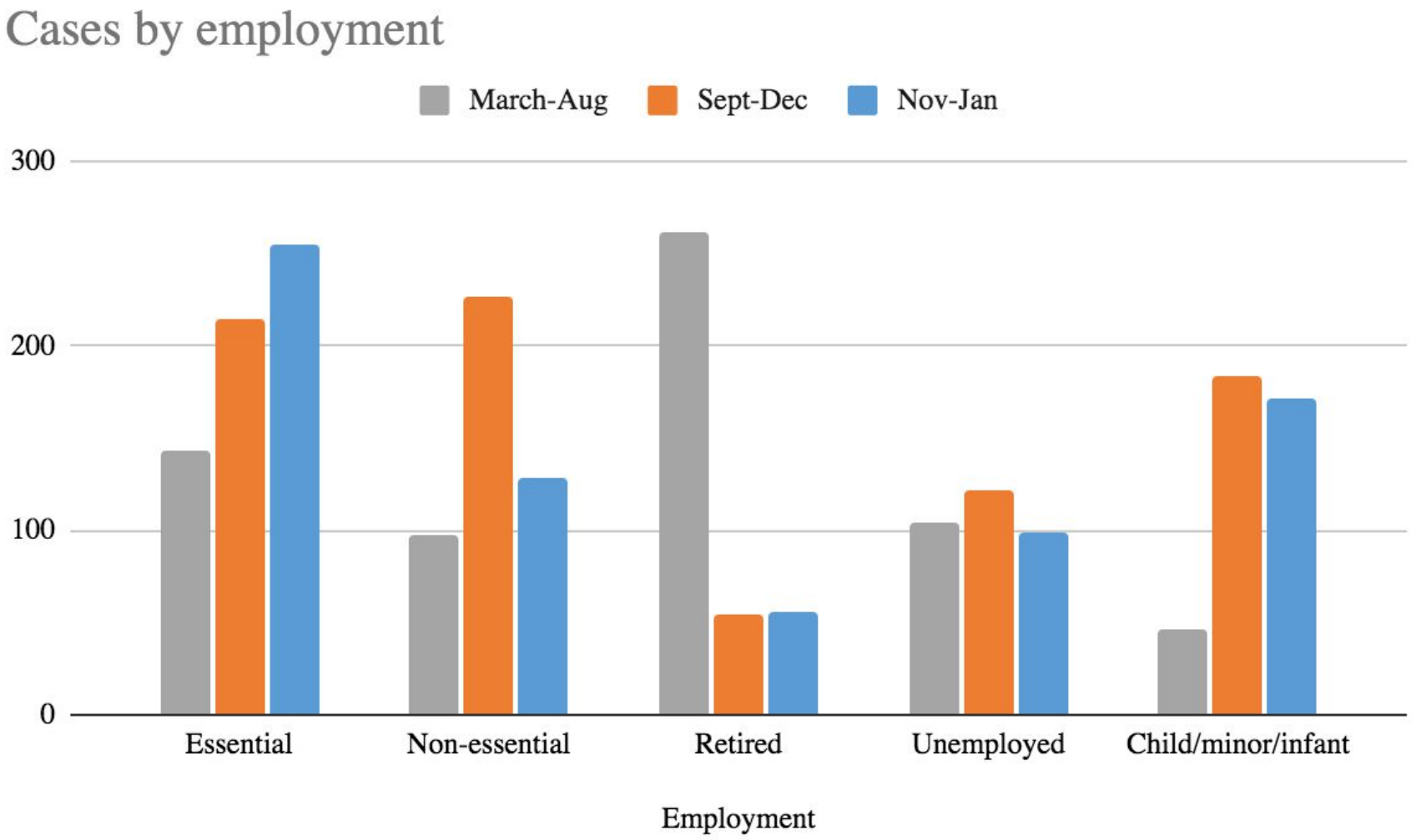
Hispanic	Sept-Dec	Nov-Jan	March-Aug
Yes	1543 (78.6%)	1611 (72.6%)	1938 (59.7%)
No	421 (21.4%)	609 (27.4%)	722 (22.2%)



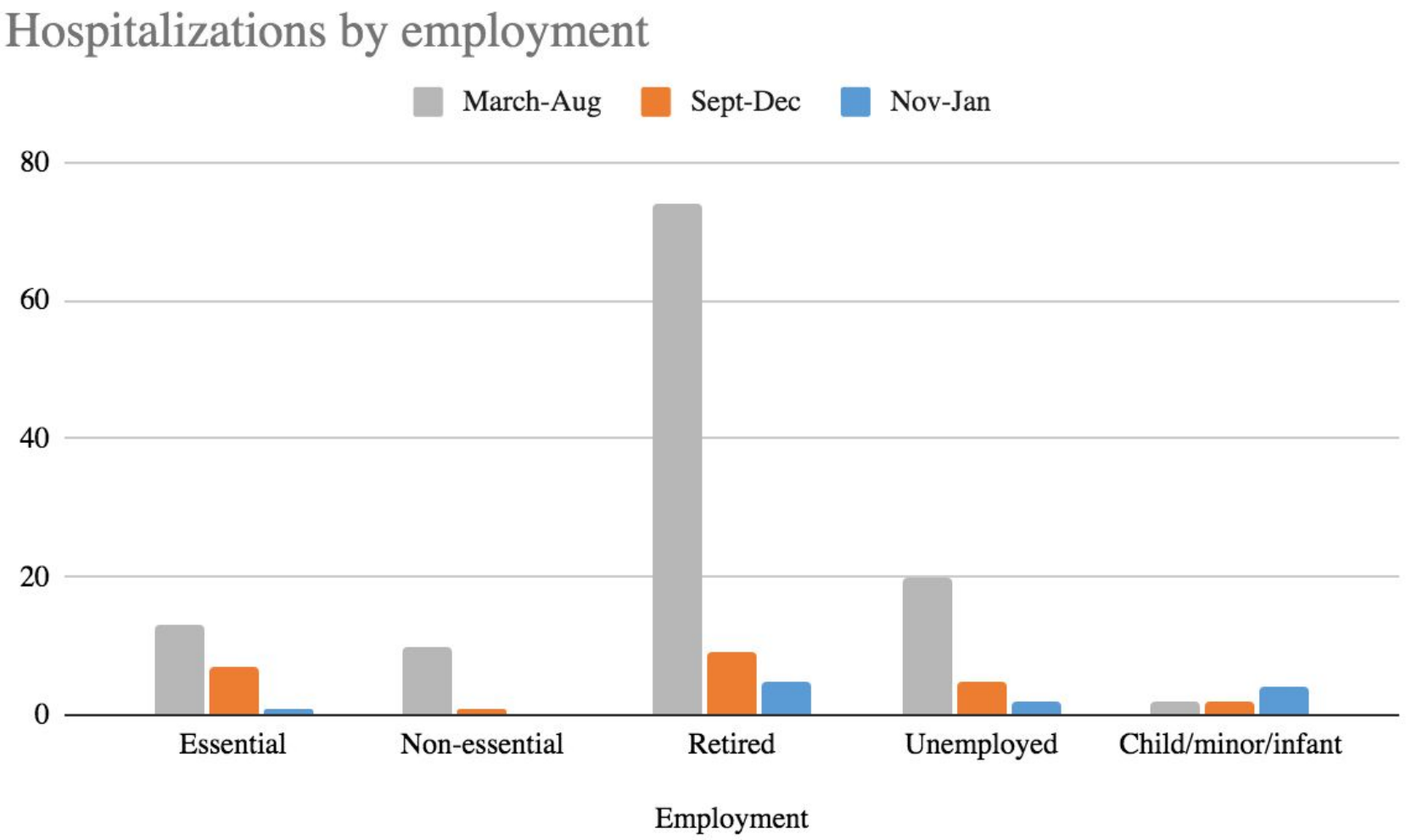
Cases by employment:

Employment	Sept-Dec	Nov-Jan	March-Aug
Essential	215 (26.9%)	255 (35.9%)	143 (19.0%)
Non-essential	226 (28.3%)	128 (18.0%)	97 (12.9%)
Retired	55 (6.9%)	56 (7.9%)	262 (34.8%)
Unemployed	121 (15.1%)	99 (13.9%)	104 (13.8%)
Child/minor/infant	183 (22.9%)	172 (24.2%)	46 (6.1%)

Cases by employment:



Hospitalization by employment:



Conclusions:

- Significant improvements have occurred in data collection from September to November.
- Surges in cases decrease data collection and quality and require improved capacity.
- Holidays such as Halloween, Thanksgiving, and Christmas led to dramatic increases in transmission, demonstrating that residents opted to spend these holidays together despite warnings.
- The average age of infection and hospitalization has decreased, impacting younger people.
- Hospitalizations and deaths have decreased, reflecting both a younger cohort, and improved understanding of the virus.
- The average number of cases per week did not change significantly over the year.

Recommendations:

1. Contact tracing systems must have reserve staff to cope with increases in cases.
2. Support public health messaging that all residents must engage in collective care-taking.
3. Public health messaging must emphasize the risks of social interaction.
4. Create a harm reduction strategy to educate on how to gather safely.
5. Ensure access to PPE.
6. Chelsea residents of all ages should have priority access to the vaccine
7. Vaccine policy should be based on local trends and prioritize essential workers

Thank you